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A Letter on:

The Fork and the Paperclip: A Memetic Perspective

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Recently, there has been much debate on what should and what should not be considered part of the science of memetics. Aunger ([2002](#)) notes the familiar fault line between "*those who advocate the contagion-like or viral metaphor and those who prefer the gene metaphor*" with both groups appearing to claim that the other is retarding progress in memetics. Perhaps, however, it is not so much the metaphor that is retarding the progress in memetics, but the debate itself. If memetics were to focus on real-world examples of supposed memetic phenomena, then we might move beyond metaphor debates, and begin providing people with insight and understanding about the world around us.

Take, for example, the evolution of a simple artifact such as the dining fork. A brief investigation into the origin of forks reveals the surprising fact that forks are in fact descended from knives ([Petroski 1992](#)). During the Middle Ages, people began to eat with two knives, using one knife to cut food and the other to spear and bring food to the mouth. The fork first appeared as a variation on this practice, with the second knife being replaced with a two-tined prong that was more effective in picking up food. Although it is unclear precisely when these 'knife-replacements' started appearing, we know for certain that dining forks were used in the eleventh century in Tuscany among the wealthy, against the express wishes of the church ([Panati 1989](#)). There is also evidence that dining forks were used in royal courts in the Middle East as early as the seventh century.

The purpose here is not to provide a memetic history of the dining fork, but to suggest that such a history would be interesting. By taking a memetic approach, we ask two simple questions: where do forks come from, and why have certain fork variants been selected over others? Answers to these trademark questions

of origins and selection might provide unique insights into these everyday artifacts. For example, such a memetic account could explain the origins of the standard four-tined fork that we use today, whilst providing a rationale for how it came to be selected over three-, five- and six-tined variants.

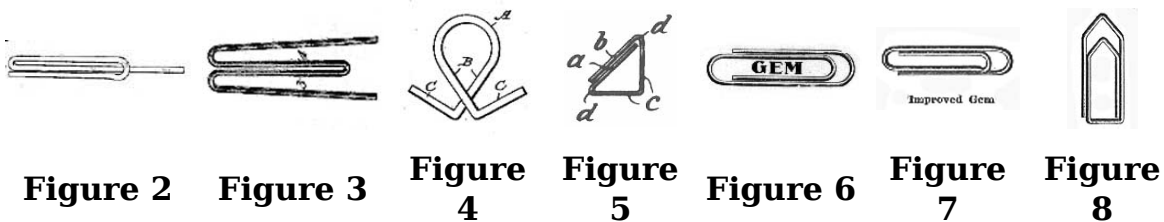
Philadelphia



Figure 1

A second example of memetics in action is the paperclip, which has also evolved through a pattern of descent with modification and differential selection. Patented in 1867 by Samuel B. Fay, the paperclip ([Figure 1](#)) was originally designed to compete with the pin in holding materials together: Thus, the pin is to the paperclip what the knife is to the fork. Originally, the clip was advertised to be used to fasten fabric, not paper, but by the late nineteenth century its principal use had evolved to fasten papers together ([Early Office Museum 2002](#)).

After Fay's first patent, a number of variant paperclips appeared that were designed for specific purposes, such as the Wright paperclip ([Figure 2](#)) designed specifically as a newspaper clip and patented in 1877. Other variants afforded superior performance in certain circumstances, such as being particularly good at holding papers securely or in being the optimal choice for large stacks of papers.



The figures above shows a number of different designs of paperclips. All of these pictures were obtained from http://www.officemuseum.com/paper_clips.htm

The paperclip variant with which we are most familiar today is the GEM paperclip ([Figure 6](#)), named after the British company that made them. There is no patent record for this variant, but a machine for manufacturing them was patented in 1899 ([Lienhard 2003](#)). Unlike other paperclips appearing around this time, such as the 1897 Cole paperclip ([Figure 3](#)) and the 1897 Reeve paperclip ([Figure 4](#)), the [GEM](#) paperclip was similar to the 1900/1901 Norwegian Vaaler paperclip ([Figure 5](#)) insofar as it did not have projections of

wire sticking out from it. With its "loop within a loop" design ([Kendall 1999](#)), credit for the [GEM](#) paperclip's popularity has been attributed to its aesthetic appeal ([American Association of Engineering Societies 2003](#)). Variations of the successful [GEM](#) paperclip have been subsequently proposed (Figures [7](#) & [8](#)), with the Perfected [GEM](#) ([Figure 8](#)) appearing in 1934 as an easier to use version, providing a better grip, as well as being less likely to scratch paper because of new square ends that lined up with the edge of the paper.

Again, the purpose here is not to provide a detailed memetic account of paperclip, but to suggest that such an account could be interesting and insightful. By asking the twin memetic questions of where do today's paperclips come from (their evolutionary lineage), and why certain variations have been selected instead of others (differential selection), we can demonstrate the relevance and utility of memetics in understanding and explaining the world of artifacts around us.

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